

Development of Online Based Smart Vehicle Renting System

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Abstract—The purpose of this system is designed to streamline the rental process and enhance user experience. Leveraging web technologies, the system offers a user-friendly interface for browsing, booking and managing vehicle rentals. Key features include real-time vehicle availability, secure online payments and integration with GPS for remote vehicle tracking. Through automation and optimization, this platform aims to change the vehicle rental industry by providing convenience, efficiency and enhanced customer satisfaction.

Index Terms—GPS (Global Positioning System), efficiency, automation

I. INTRODUCTION

In today's fast-paced world, convenience is key. The advent of online services has revolutionized various industries, and the vehicle rental sector is no exception. Online vehicle renting systems have emerged as a convenient and efficient solution for individuals and businesses alike, offering a seamless platform to access a wide range of vehicles for diverse needs. Online vehicle renting systems provide users with the flexibility to browse, select, and book vehicles of their choice from the comfort of their homes or offices. Whether it's for a weekend getaway, a business trip, or daily commuting, these platforms offer an extensive fleet of vehicles to cater to diverse preferences and requirements.

II. OVERVIEW

In the era of digital transformation, the integration of smart technologies has revolutionized various industries, including transportation and vehicle rental. A smart online vehicle renting system represents the convergence of advanced digital solutions and traditional rental services, offering users a seamless and intelligent platform to access and manage vehicle rentals efficiently. This system represents the next evolution of vehicle rental services, leveraging IoT, AI, mobile technology, predictive analytics, digital payments, and smart vehicles to deliver a seamless and intelligent rental experience.

III. PROBLEM STATEMENT

A car rental is a vehicle that may be rented for a price and utilized for a specific length of time. Getting a rental automobile makes it easier for people to travel around when they don't have access to their own vehicle or don't own one at all. A person who needs transportation must call a rental car company and sign a contract. This method improves client retention while also making car and employee management more straightforward.

IV. OBJECTIVE

The objective of an online vehicle renting system is to provide a convenient, transparent, and efficient platform for individuals and businesses to access rental vehicles. By leveraging digital technology, the system aims to streamline the booking process, enabling users to easily search for, compare, and reserve vehicles online. Transparency in pricing, terms, and conditions is prioritized to build trust and confidence among customers. Diverse vehicle options cater to various needs, ensuring that users can find the right vehicle for their specific requirements. Additionally, the system aims to optimize fleet management, maximizing vehicle utilization while minimizing downtime. By offering a seamless customer experience, integrating advanced technologies, and prioritizing security and safety, the online vehicle renting system strives to enhance user satisfaction and promote convenience in the rental process.

V. SCOPE

This project traverses a lot of areas ranging from business concept to computing field, and required to perform several researches to be able to achieve the project objectives. The area covers include:

- Car rental industry: This includes study on how the car rental business is being done, process involved and opportunity that exist for improvement.
- General customers as well as the company's staff will be

able to use the system effectively.

- Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.
- Eco-friendly: The monitoring of the vehicle activity and the overall business becomes easy and includes the least of paper work.
- The software acts as an office that is open 24/7.
- It increases the efficiency of the management at offering quality services to the customers.
- It provides custom features development and support with the software.

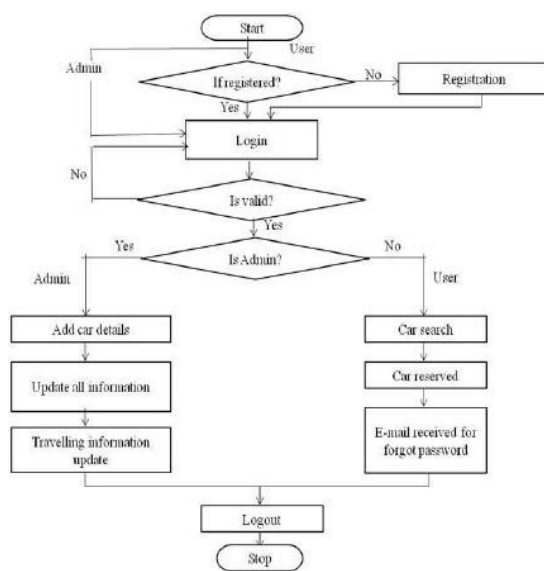


Fig. 1. Flowchart of system

VI. OVERVIEW OF REPORT

A. Objective:

This system is to provide a user-friendly platform for convenient and transparent vehicle bookings. By offering a diverse selection of vehicles and streamlined processes, the system aims to enhance customer satisfaction and optimize fleet utilization.

B. Solution:

It involves developing a robust platform with intuitive interfaces for users to browse, book, and manage rentals seamlessly. Integration of advanced technologies such as AI for personalized recommendations and IoT for real-time vehicle tracking enhances efficiency and customer experience while ensuring transparency in pricing and terms.

C. Key Features:

preferences. Additionally, integration of advanced technologies such as GPS tracking and digital payments enhances efficiency and convenience for both renters and operators.

D. Overall Aim:

The project's goal is to automate vehicle rental and reservation so that clients don't have to waste time calling and waiting for a vehicle. Customers will be able to reserve their vehicles from anywhere. To ease customer's tasks whenever they need to rent a car.

E. Benefits:

It include convenience through easy booking and management from anywhere, and cost-effectiveness by offering transparent pricing and competitive rates. Additionally, it provides a wide selection of vehicles and streamlined processes, enhancing the overall rental experience for customers.

VII. TOOLS AND TECHNOLOGY

The implementation of the proposed system was carried out using the following tools and technologies:

A. Hardware Components:

- Processor – Core i3
- Hard Disk – 512GB ROM
- Memory – 8GB RAM

B. Software Requirements:

- Windows 7 or higher
- PHP
- MySQL
- Javascript
- XAMPP

C. Technology:

- PHP
- MySql
- Html 5
- CSs 3
- JavaScri

CONCLUSION

A user-friendly interface for easy browsing and booking, transparent pricing with clear terms and conditions, and a diverse fleet of vehicles to accommodate various needs and

Car Services is a Web application and it is confined to just constrain sort of clients. Vehicle Rental Management System will improve the organization of rentals and arrangements of vehicles. This structure made in order to overcome the issues confronted utilizing the manual way. Through this application we are trying to promote renting out products used on a daily basis instead of buying and discarding them. Our application is user-friendly, open source and is Free to use. It positively impacts the environmental situation by using fewer products a greater number of times.

REFERENCES

- [1] R. McLeod and Jr. G. P. Schell, Management Information System, Tenth Edition. India: Pearson Education, Inc., 2007.
- [2] Busse, M., Busse, M., Swinkels, J., Swinkels, J., Merkle, G., Merkle, G. (2017). Enterprise rent-a-car. Kellogg School of Management Cases, 1-15. <https://doi.org/10.1108/case.kellogg.2016.000112>.
- [3] Ghoreishi, N., Shajari, M. (2010). Web-Based SMS Passenger Application: New Approach to Inform Passengers via SMS in Airlines. In Proceedings of the International Conference on e-Education, e-Business, e-Management, and e-Learning 2010.
- [4] Y. Damayanti, "Perancangan Sistem Informasi Penyewaan Mobil Rama Rental Car Dengan Menggunakan Microsoft Visual Basic Versi 6.0," unpublished. Undergraduate Thesis. Jakarta: Gunadarma University, 2005.
- [5] JavaScript: https://developer.mozilla.org/en-US/docs/Learn/JavaScript/First_steps/What_is_JavaScript
- [6] R. D. Sari, "Building Application System Car Rental Reservation and Payment Online Web-Based (Case Study in The Rental Daras Corporation)," unpublished. Undergraduate Thesis. Bandung: Unikom, 2011.
- [7] Jogiyanto, Analisis dan Desain Sistem Informasi: Pendekatan Terstruktur Teori dan Praktek Aplikasi Bisnis, Edisi 2. Yogyakarta: Andy Yogyakarta, 2001.
- [8] Robert C. Hampshire and Craig Gaites, Peer-to-Peer Carsharing <https://journals.sagepub.com/doi/10.3141/2217-15>
- [9] Patrícia Baptista, Sandra Melo and Catarina Rolim, CAR SHARING SYSTEMS AS A SUSTAINABLE TRANSPORT POLICY: A CASE STUDY FROM LISBON, PORTUGAL- <https://www.researchgate.net/publication/276964390> Car Sharing Systems as a Sustainable Transport Policy A Case Study from Lisbon Portugal
- [10] Niels Agatz, Sustainable Passenger Transportation: Dynamic Ride Sharing <https://www.researchgate.net/publication/46433920> Sustainable Passenger Transportation Dynamic Ride-Sharing
- [11] Alfred Benedikt Brendel, Christian Rockenkamm, Lutz M.
- [12] Dong Li, Zhan Pang
- [13] Amey Thakur, Car Rental System https://www.academia.edu/79792889/CarRental_System
- [14] Saif Benjaafar, Xiangyu Gao, Online Learning for Pricing in On-Demand Vehicle Sharing Networks https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4344364
- [15] Kevin Hendersen, Novando Santosa, Sally Septia Halim, Aswin Wibisurya, MOBILE-BASED APPLICATION DEVELOPMENT FOR CAR AND MOTOR RENTAL- <https://www.jcreview.com/admin/Uploads/Files>